International Standard ISO 3136

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Rubber latex — Styrene-butadiene — Determination of bound styrene content

Latex de caoutchoucs — Styrène-butadiène — Détermination de la teneur en styrène lié

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been authorized has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 3136 was developed by Technical Committee ISO/TC 45, *Rubber and rubber products.*

This second edition was submitted directly to the ISO Council, in accordance with clause 6.11.2 of part 1 of the Directives for the technical work of ISO. It cancels and replaces the first edition (i.e. ISO 3136-1975), which had been approved by the member bodies of the following countries:

Austria	Hungary	Romania
Belgium	India	South Africa, Rep. of
Brazil	Ireland	Sweden
Bulgaria	Netherlands	United Kingdom
Canada	New Zealand	USA
Egypt, Arab Rep. of	Poland	USSR
France	Portugal	Yugoslavia

No member body had expressed disapproval of the document.

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INTERNATIONAL STANDARD ISO 3136-1983 (E)

Rubber latex — Styrene-butadiene — Determination of bound styrene content

1 Scope and field of application

This International Standard specifies a method for the determination of the bound styrene content of styrene-butadiene rubber (SBR) latices.

The method is applicable to hot (approximately 50 °C) emulsion polymerized SBR latices having a bound styrene content, expressed on the SBR content, of up to 55 % and to cold (approximately 5 °C) emulsion polymerized SBR latices having a bound styrene content between 18 and 40 %.

The method is not applicable to reinforced styrene-butadiene rubber (SBR..Y) latices, carboxylated-styrene-butadiene rubber (XSBR) latices and pyridine-styrene-butadiene rubber (PSBR) latices.

2 References

ISO 123, *Rubber latex — Sampling.*

ISO 2028, *Rubber — Synthetic latices — Preparation of dry polymer.*

ISO 2453, *Styrene-butadiene copolymers — Determination of bound styrene content.*

3 Principle

Conversion of the latex to a dry polymer which is extracted and pressed into a thin sheet. Calculation of the bound styrene content from the measured refractive index of this sheet.

4 Reagents and apparatus

The reagents and apparatus specified in ISO 2028 and ISO 2453 are required.

5 Sampling

Sampling shall be carried out in accordance with one of the methods specified in ISO 123.

6 Procedure

In accordance with ISO 2028, coagulate the latex with sodium chloride and sulphuric acid in the presence of methanol and collect and dry the resultant crumb.

In accordance with ISO 2453, sheet out the polymer, extract with ethanol-toluene azeotrope, dry, press into a thin sheet and determine the refractive index.

7 Expression of results

Calculate the bound styrene content, as a percentage by mass of the SBR content of the latex, in accordance with ISO 2453.

8 Test report

The test report shall include the following information:

a) the reference of the method used;

b) the results and the method of expression used;

c) any unusual features noted during the determination;

d) any operation not included in this International Standard, or regarded as optional.